IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
APPLICATION FOR UNITED STATES PATENT

Title: ***HELMET SWEAT BAND***

Inventor(s):

WILLIAM A. WILES
A citizen of the United States of America
PHOENIX, Arizona

Attorneys:

DONALD J. LENKSZUS
DONALD J LENKSZUS, P.C.
PO BOX 3064
CAREFREE, AZ 85377-3064
Tel: 602-463-2010
Fax: 480-575-1321

HELMET SWEAT BAND

FIELD OF THE INVENTION

[0001] This invention pertains to headwear, in general, and to a sweatband for a helmet, in particular. The sweatband is particularly well adapted for combat helmets and the like.

BACKGROUND OF THE INVENTION

[0002] Combat helmets currently in use have Kevlar or projectile resistant helmet that have a web type suspension. A removable sweat band of leather is provided for use with the helmets.

[0003] With extended wear, particularly in hot and/or humid climates, the leather sweatbands become moldy or smelly and the bacteria and microbes have a destructive effect on the leather. In addition, many wearers find that the leather sweatband becomes uncomfortable.

[0004] It is highly desirable to provide a sweat band that will be usable with combat helmets and the like that is comfortable and has anti-microbial and ant-bacteria properties.

SUMMARY OF THE INVENTION

[0005] In accordance with the principles of the invention, an improved sweat band is provided including a hydrophilic foam core and a moisture wicking fabric covering the foam band. The hydrophilic foam core of the illustrative embodiment comprises water absorbent polymer crystals.

[0006] In accordance with one aspect of the invention, the foam core is treated to be resistant to at least one of microbes, bacteria, and fungi.

[0007] The illustrative embodiment of the invention the sweat band includes an adjustment portion to adjust the size of said sweat band to a wearer.

[0008] In accordance with the principles of the invention, a sweat band for use in a helmet of a type comprising a suspension web disposed therein, comprises a sweat band portion including a hydrophilic foam core and a moisture wicking fabric covering the foam core. The sweat band further includes an attachment portion coupled to the sweat band portion for releasable affixing the sweat band portion to the suspension web of the helmet. The sweat band includes an adjustment member used to adjust the sweat band to fit the head of a wearer of said helmet.

[0009] In the illustrative embodiment of the invention, the adjustment member comprises a hook and loop type fastener, with the hook portion being carried on one end of the adjustment member and a loop portion carried on the adjustment member to engage the

hook portion. The adjustment member and the attachment portion are each affixed to the sweat band portion proximate one peripheral edge portion of the sweat band portion.

[0010] In the sweat band of the illustrative embodiment the attachment portion comprises a plurality of strips carrying hook portions of hook and loop type fasteners. Each of the plurality of strips is utilized for securing the sweat band to the web portion of a helmet such that the sweat band portion is carried in the helmet.

[0011] Still further in accordance with the principles of the invention, a helmet is provided comprising a protective helmet body. A suspension is carried within the helmet body. The suspension comprises a headband portion. A sweat band is carried in the helmet body proximate the headband portion. The sweat band comprises a sweat band portion and an attachment portion. The sweat band portion comprises a hydrophilic foam band and a moisture wicking fabric covering the foam band. The attachment portion is coupled to the sweat band portion for releasable affixing said sweat band portion within the helmet body. The sweat band comprises an adjustment member attached to the sweat band portion. The adjustment member is used to adjust the sweat band to fit the head of a wearer of the helmet.

[0012] In the illustrative embodiment of the invention, the adjustment member comprises a hook and loop type fastener, with the hook portion of said fastener being carried on one end of the adjustment member and a loop portion being carried on the adjustment member to engage the hook portion. The adjustment member and the attachment portion

are each affixed to the sweat band portion proximate one peripheral edge portion of said sweat band portion.

BRIEF DESCRIPTION OF THE DRAWING

[0013] The invention will be better understood from a reading of the following detailed description of preferred embodiments of the invention in conjunction with the drawing figures in which the sizes of and distances between various elements is not representative of actual physical sizes or distances between various elements, and in which:

[0014] FIG. 1 is a planar view of the components of a sweat band in accordance with the principles of the invention;

[0015] FIG. 2 is planar view of a portion or subassembly of a sweat band in accordance with the principles of the invention;

[0016] FIG. 3 is a planar view of a second portion or subassembly of a sweat band in accordance with the principles of the invention;

[0017] FIG. 4 is a planar view of a sweat band in accordance with the invention;

[0018] FIG. 5 is a planar view of the opposite side of the sweat band of FIG. 4;

[0019] FIG. 6 is a cross-sectional view take line 6-6 of FIG. 1;

[0020] FIG. 7 is a cross-section taken along lines 7-7 of FIG. 1;

[0021] FIG. 8 is a cross-section taken along lines 8-8 of FIG. 4;

[0022] FIG. 9 is a bottom view of a helmet having the sweat band of the invention installed therein; and

[0023] FIG. 10 is a cross-section taken along lines 10-10 of FIG. 9.

DETAILED DESCRIPTION

[0024] Sweat band 100 includes a sweat band portion 101, an adjustment portion 103 and one or more attachment portions 105. Sweat band portion 101 is formed from a piece of moisture wicking fabric 111 such as COOLMAX® which is a high tech fabric available from Dupont. This fabric is made from specially engineered polyester fibers with an increased surface area. The surface 101a of the fabric 111 in contact with skin pulls moisture away from the skin to its opposite surface.

[0025] The moisture wicking fabric 111 is fabricated into a flat tube containing a core 107 shown in FIGs. 6, 7, 8, and 9. Core 107 is water absorbing or hydrophilic foam that includes antibacterial and anti-microbial agents to eliminate odor and other unpleasant effects of extended use. The hydrophilic foam is commercially available. The foam has

integrated therein water absorbent polymer crystals, so that the foam will absorb moisture such as sweat that is passed through fabric 111. One source of such foam padding is Lendell Manufacturing, Inc.

[0026] By using a moisture wicking fabric 111 in combination with hydrophilic foam 107, an extremely comfortable sweat band 100 that provides double moisture removal is provided.

[0027] Sweat band portion 101 is formed to contain foam core 107 by folding the fabric 111 over foam pad 107 and closing the ends and top of the fabric 111. In the illustrative embodiment of the invention, closure of the ends and the top is accomplished by sewing. Sweat band portion 101 in the illustrative embodiment is 2 inches high and 19 ½ inches long. In addition, a longitudinal seam 101c is sewn to secure the foam pad 107 within sweat band portion 101.

[0028] Sweat band portion 101 has affixed proximate to one peripheral edge 101e adjustment portion or band 103. Band 103 in the illustrative embodiment is 23 inches long and 1 1/4 inches high. Band 103 is a loop strip of a hook and loop fastener, such as a Velcro™ loop strip. Surface 103b of band 103 is the loop portion. At one end 103d of band 103 is affixed a Velcro ™ hook portion 103c. By looping end portion 103f onto end portion 103d, the hook portion 103c engages loop portion surface 103a.

[0029] Surface 101a of sweat band 101 is the surface of sweat band 100 that is adapted to contact the head of a helmet wearer. Sweat band portion 101 carries two Velcro™ loop portions 101d on its surface 101b. As will be understood by those skilled in the art, although two loop portions 101d are utilized, other numbers of loop portions may also be utilized.

[0030] Loop portions 101d releasably engage hook surface 103b of band 103 to secure sweat band portion 101 in position parallel to band 103.

[0031] A plurality of attachment strips 105 which comprise Velcro™ hook strips 105 are affixed to peripheral edge 101e of band 103. Each strip 105 has its hook side adjacent to band 103.

[0032] The edges of the sweat band portion 101, strips 105, and band 103 are covered by fabric strip 109 that is folded over the edges and sewn to sweat band portion 101, strips 105 and band 103. Fabric strip protects the wearer of sweat band 100 from any rough edges.

[0033] Turning now to FIG. 9, a helmet 700 is shown as viewed from the bottom. Helmet 700 includes a protective helmet body 701. A suspension 703 is carried within helmet body 701 and includes a headband 705.

[0034] Sweat band 100 is carried in said helmet body 700 proximate suspension 703. The construction of sweat band 100 is as described above.

[0035] To install sweat band 100 in helmet 700, sweat band 100 is inserted into helmet 700 with strips 105 entering helmet 700 first. The ends of sweat band portion 100 are placed in the rear portion of helmet 700. As more clearly shown in FIG. 10, strips 105 are positioned between helmet body 701 and suspension 703. Strips 105 are each folded over helmet suspension 703 capturing helmet head band portion between the corresponding strip 105 and band 103. Each strip 105 has its hook portion secured to loop carrying surface 103b of band 103 thereby affixing sweat band 100 into helmet 700. Closure portions 101c secure the ends of sweat band portion 101 to band 103.

[0036] The helmet is then tried on and Velcro™ strip 103d is adjusted in position on surface 103a to adjust for head size

[0037] It will be appreciated by those skilled in the art that the helmet shown in the drawing figures is intended to be representative of a combat helmet, but the invention is not limited to any particular helmet shape or type. Still further, the invention is not limited to the particular suspension configuration shown in the drawing figures. The invention is equally applicable to different suspension configurations and attachments to helmets.

[0038] The invention has been described in terms of various embodiments. It is not intended that the invention be limited to the illustrative embodiments. It will be apparent to those skilled in the art that various modifications and changes may be made to the embodiments without departing from the spirit or scope of the invention. Accordingly, it is intended that the invention be limited only by the claims appended hereto.